

CLAIMS

WHAT IS CLAIMED IS:

1. A variable displacement compressor which comprises a compression mechanism (20) and a drive mechanism (30) operable to activate said compression mechanism (20) and in which said compression mechanism (20) includes a discharge valve mechanism (40), wherein:

said discharge valve mechanism (40) is configured such that a plurality of discharge openings (29a, 29b) are placed in an open or closed state by means of a plate-like valve element (41) which is a reed valve, and each of said discharge openings (29a, 29b) is formed at a respective location between a base end side and a leading end side of said valve element (41), and

a corresponding portion of said valve element (41) to said discharge opening (29a) on the leading end side has a bending strength set smaller than that of a corresponding portion of said valve element (41) to said discharge opening (29b) on the base end side.

2. The compressor as set forth in claim 1, wherein:

two discharge openings (29a, 29b) are formed in said compression mechanism (20), and

said valve element (41) includes a small-width part (41a) of smaller width dimension between said corresponding portion to said discharge opening (29b) on the base end side and said corresponding portion to said discharge opening (29a) on the leading end side.

3. The compressor as set forth in claim 1, wherein:

two discharge openings (29a, 29b) are formed in said compression mechanism (20), and

said corresponding portion of said valve element (41) to said discharge opening (29a) on the leading end side has a smaller width dimension than that of said corresponding portion of said valve element (41) to said discharge opening (29b) on the base end side.

4. A variable displacement compressor which comprises a compression mechanism (20) and a drive mechanism (30) operable to activate said compression mechanism (20) and in which said compression mechanism (20) includes a discharge valve mechanism (40), wherein:

said discharge valve mechanism (40) comprises a first valve mechanism (40A) including a first valve element (41A) which is a reed valve operable to place a discharge opening (29a) in an open or closed state, and a second valve mechanism (40B) including a second valve element (41B) which is a poppet valve operable to place another discharge opening (29b) in an open or closed state.

5 5. The compressor as set forth in claim 4, wherein:

said first valve mechanism (40A) has a discharge port diameter ($\phi Dd1$) and a seat diameter ($\phi Ds1$) and said second valve mechanism (40B) has a discharge port diameter ($\phi Dd2$) and a seat diameter ($\phi Ds2$), said discharge port diameters being set such that $\phi Dd1$
10 $< \phi Dd2$, said seat diameters being set such that $\phi Ds1 < \phi Ds2$, and

said first valve element (41A) has a lift amount (L1) and said second valve element (41B) has a lift amount (L2), said lift amounts being set such that $L2 < L1$.

6. A variable displacement compressor which comprises a compression mechanism (20) and a drive mechanism (30) operable to activate said compression
15 mechanism (20) and in which said compression mechanism (20) includes a discharge valve mechanism (40), wherein:

said discharge valve mechanism (40) is configured such that a plurality of discharge openings (29a, 29b) are placed in an open or closed state by means of a plate-like valve element (43), and each of said discharge openings (29a, 29b) is formed at a
20 respective location between a base end side and a leading end side of said valve element (43), and

a corresponding portion (43a) of said valve element (43) to said discharge opening (29a) on the leading end side has a smaller bending strength than that of a corresponding portion (43b) of said valve element (43) to said discharge opening (29b) on the base end
25 side, and said corresponding portion (43a) to said discharge opening (29a) on the leading end side is formed as a reed valve while said corresponding portion (43b) to said discharge opening (29b) on the base end side is formed as a poppet valve.

7. The compressor as set forth in claim 6, wherein:

two discharge openings (29a, 29b) are formed in said compression mechanism (20),
30 and

said valve element (43) includes a small-width part (43c) of smaller width dimension between a corresponding portion of said valve element (43) to said discharge

opening (29b) on the base end side and a corresponding portion of said valve element (43) to said discharge opening (29a) on the leading end side.

8. The compressor as set forth in claim 6, wherein:

two discharge openings (29a, 29b) are formed in said compression mechanism (20),

5 and

a corresponding portion of said valve element (43) to said discharge opening (29a) on the leading end side has a smaller width dimension than that of a corresponding portion of said valve element (43) to said discharge opening (29b) on the base end side.

9. A variable displacement compressor which comprises a compression
10 mechanism (20) and a drive mechanism (30) operable to activate said compression mechanism (20) and in which said compression mechanism (20) includes a discharge valve mechanism (40), wherein:

said discharge valve mechanism (40) comprises a first valve mechanism (40A) including a first valve element (41A) operable to place a discharge opening (29a) in an
15 open or closed state, and a second valve mechanism (40B) including a second valve element (41B) operable to place another discharge opening (29b) in an open or closed state, and

both said first valve element (41A) and said second valve element (41B) are formed by reed valves and said first valve element (41A) has a bending strength set smaller than
20 that of said second valve element (41B).

10. The compressor as set forth in claim 9, wherein:

said first valve element (41A) has a smaller thickness than that of said second valve element (41B).

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